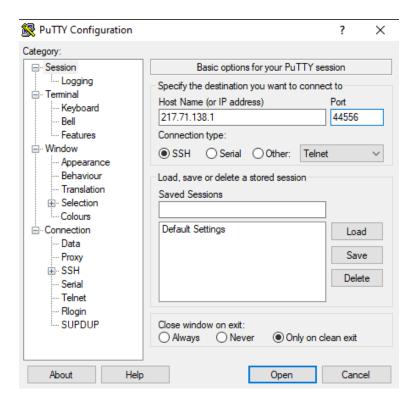
Модуль 1. Пракика 1. Владимиров А.В.

Задания. Раздел 1.

1. Выбран клиент PuTTY, подключаемся по ssh, вводим host/port и user/password



2. Запустите новую сессию утилиты screen, с именем по умолчанию, посмотрите список подключенных пользователей командой **w**, отключитесь от сессии.

```
ltex-pgl-v14@eltex-2025-summer:
10:58:53 up 1:57, 53 users, load average: 0.00, 0.06, 0.15
USER
                  FROM
                                   LOGING
                                            IDLE
                                                           PCPU WHAT
        pts/0
                                                    0.02s
                                                            0.02s -bash
                  217.71.139.232
eltex-pg pts/l
                                             5.00s
                                                                  screen -r 3771..eltex-2025-summer
eltex-pg pts/2
                  217.71.139.232
                                                                  screen -r 2453
                  217.71.139.232
                                                                  screen -r pts-42
eltex-pg pts/3
                                             0.00s
                                                    0.00s
eltex-pg pts/5
                                    10:24
                                             2:43
                                                    0.01s
                                                                  screen
eltex-pg pts/6
                  178.178.207.24
                                    10:24
                                            34:26
                                                                  -bash
                  :pts/68:S.1
                                                                  /usr/bin/bash
eltex-pg pts/7
                                            22:44
                                                    0.00s
                                                           0.03s -bash
                  217.71.139.232
eltex-pg pts/8
eltex-pg pts/9
                  85.140.163.180
                                                                  -bash
eltex-pg pts/10
                  217.71.139.232
                                   10:27
                                                    0.01s
                                                                  screen -r top
                                            51.00s
                                                           0.01s -bash
eltex-pg pts/11
                                   10:29
                                                    0.01s
                                                           0.02s -bash
eltex-pg pts/13
                  217.71.139.232
                                            3.00s
                                                    0.02s
eltex-pg pts/14
                  :pts/68:S.8
                                                                  /usr/bin/bash
                                            19:43
eltex-pg pts/17
                                                                  screen -r 2591.pts-17.eltex-2025-summer
                  217.71.139.232
                                                                  screen -S -d -m
eltex-pg pts/18
                                   10:32
                                            4.00s
                                                    0.00s
                                                                  screen -r 1728
eltex-pg pts/19
                  178.178.207.24
                                   10:32
                                                    0.01s
                  217.71.139.232
eltex-pg pts/22
                                   10:34
                                             4.00s
                                                    0.00s
                                                                  -bash
eltex-pg pts/23
                  :pts/68:S.0
                                    10:53
                                                           0.18s top
eltex-pg pts/24
                  :pts/2:S.0
                                                    0.00s
                                                            0.01s SCREEN -m
eltex-pg pts/26
                  :pts/18:S.0
                                                                  SCREEN -S -d -m
                  217.71.131.237
                                   10:48
                                                           0.01s -bash
eltex-pg pts/28
                                            10:06
                                                    0.01s
                  :pts/68:S.2
                                                                  /usr/bin/bash
eltex-pg pts/31
                                   10:53
                                                    0.00s
                  :pts/68:S.3
eltex-pg pts/32
                                   10:53
                                            22:01
                                                    0.00s
                                                                  /usr/bin/bash
eltex-pg pts/35
                  :pts/3:S.1
                                                                  /usr/bin/bash
                  :pts/68:S.4
                                                                  /usr/bin/bash
eltex-pg pts/36
                                    10:53
eltex-pg pts/37
                  :pts/68:S.5
                                            21:45
                                                                  /usr/bin/bash
eltex-pg pts/38
                  :pts/68:S.6
                                   10:53
                                            21:44
                                                    0.00s
                                                                  /usr/bin/bash
                  :pts/68:S.7
eltex-pg pts/39
                                   10:53
                                                    0.00s
                                                                  /usr/bin/bash
                                            21:38
eltex-pg pts/42
                  217.71.139.232
                                   10:39
                                            50.00s
                                                    0.00s
                                                                  -bash
eltex-pg pts/43
                  :pts/3:S.0
                                                                  screen -r top
eltex-pg pts/45
                                    10:54
                                                    0.00s
                                                                  screen -r 1720
eltex-pg pts/46
                  :pts/45:S.0
                                                                  /usr/bin/bash
                  :pts/19:S.0
                                   10:49
                                                           0.61s top
eltex-pg pts/47
                                                    0.62s
                  :pts/17:S.0
                                                           0.04s top
eltex-pg pts/49
                                   10:54
                                            33.00s
                                                    0.04s
eltex-pg pts/50
                  :pts/67:S.0
                                   10:54
                                             9.00s
                                                    0.01s
                                                           0.02s SCREEN
eltex-pg pts/53
                                                                  -bash
                  :pts/66:S.0
                                                           0.03s SCREEN
eltex-pg pts/55
                                    10:55
eltex-pg pts/58
                  :pts/66:S.1
                                                                  /usr/bin/bash
                  :pts/66:S.2
                                                                  /usr/bin/bash
eltex-pg pts/59
                                                    0.00s
                  :pts/66:S.3
eltex-pg pts/62
                                   10:55
                                             5.00s
                                                    0.21s
                                                           0.21s top
                  217.71.139.232
eltex-pg pts/64
                                    10:53
                                             9.00s
                                                    0.01s
                                                                  screen
eltex-pg pts/66
                  185.210.141.181
                                                                  screen -r pts-12.eltex-2025-summer
eltex-pg pts/57
                                                            0.01s -bash
eltex-pg pts/60
                  :pts/1:S.0
                                             5.00s
                                                           0.17s w
                  217.71.131.237
                                             9.00s
eltex-pg pts/67
                                                    0.00s
                                                                  screen -r 1836
eltex-pg pts/68
                  :pts/5:S.0
                                   10:50
                                                                  screen -r 1399
                                                    0.00s
                  :pts/5:S.1
eltex-pg pts/71
                                                    0.00s
                                                                  /usr/bin/bash
eltex-pg pts/72
                  :pts/10:S.1
                                    10:54
                                                           0.01s watch /usr/bin/vmstat
eltex-pg pts/73
                                                            0.01s -bash
eltex-pg pts/70
                  :pts/10:S.0
                                                    0.50s
                                                           0.02s SCREEN -S top -d -m top
                                                           0.01s SCREEN -S top -d -m top
                  :pts/43:S.0
eltex-pg pts/74
                                    10:54
                                                    0.49s
                  217.71.139.232
eltex-pg pts/75
                                    10:56
                                             5.00s
                                                                  man screen
eltex-pg pts/76
                  :pts/64:S.0
                                    10:58
                                             9.00s
                                                    0.00s
                                                                  SCREEN
eltex-pgl-v14@eltex-2025-summer:~$
```

eltex-pgl-v14@eltex-2025-summer:~\$ exit

[screen is terminating]

eltex-pgl-vl4@eltex-2025-summer:~\$ screen -list No Sockets found in /run/screen/S-eltex-pgl-vl4. 3. Запустите отсоединенную сессию утилиты screen, при этом запустите в этой сессии команду top. Назовите сессию именем «top».

```
eltex-pgl-v14@eltex-2025-summer:~$ screen -dm -S top
```

eltex-pgl-v14@eltex-2025-summer:~\$ screen -S top -X top

```
- 11:05:01 up 2:03, 51 users, load average: 0.04, 0.05, 0.10
Tasks: 339 total, 1 running, 338 sleeping, 0 stopped, 0 zombie
%Cpu(s): 0.4 us, 0.3 sy, 0.0 ni, 99.1 id, 0.0 wa, 0.0 hi, 0.2 si, 0.0 st
MiB Mem: 3914.7 total, 3223.8 free, 645.6 used, 259.8 buff/cache
              976.0 total,
                               976.0 free,
                                                   0.0 used.
                                                                 3269.1 avail Mem
                                               SHR S %CPU %MEM
   PID USER
                  PR NI
                             VIRT
                                       RES
                                                                         TIME+ COMMAND
   5342 eltex-p+
   899 eltex-p+ 20
                              18004
                                               4988 S
                                                         0.3
                                                               0.2
                                                                       0:00.22 sshd
                                       6860
                                                                       0:00.02 kworker/2:3-events
   1407 root
                                                 0 I
                                                         0.3
                                                               0.0
                                               3240 S
   1882 eltex-p+
                                                                       0:01.49 top
                                                         0.3
                                                                0.1
  1965 eltex-p+ 20
1968 eltex-p+ 20
                                               3220 S
                                                                       0:01.35 top
                                                         0.3
                                                                0.1
                                               3240 S
                                                                       0:01.33 top
                                       5136
                                                         0.3
  2766 eltex-p+ 20
3157 eltex-p+ 20
                                       5508
                                               3356 S
                                                         0.3
                                                                       0:00.92 top
                                                                0.1
                             11636
                                       5404
                                               3252 S
                                                                       0:00.89 top
                                                         0.3
                                                                0.1
  4518 eltex-p+ 20
4619 eltex-p+ 20
                                               5836 S
                                                         0.3
                                                                       0:00.02 vi
                             11616
                                       5504
                                               3356 S
                                                         0.3
   5149 eltex-p+ 20
5259 eltex-p+ 20
                             18092
                                       6860
                                               4944 S
                                                         0.3
                                                                0.2
                                               3256 S
                                                                      0:00.17 top
0:00.71 systemd
                                      5404
                             11616
                                                         0.3
                        0 168396
0 0
      1 root
                                                  0 S
                                                                       0:00.00 kthreadd
      2 root
                                                                       0:00.00 rcu_gp
                                                  0 I
      3 root
                                                  0 I
                                                                       0:00.00 rcu_par_gp
      5 root
                                                  0 I
                                                                       0:00.00 slub_flushwq
                                                  0 I
                                                                       0:00.00 netns
                                                                       0:00.00 kworker/0:0H-events_highpri
                                                                       0:00.00 mm_percpu_wq
0:00.00 rcu_tasks_kthread
0:00.00 rcu_tasks_rude_kthread
0:00.00 rcu_tasks_trace_kthread
     10 root
     11 root
     12 root
     13 root
                                                                       0:00.02 ksoftirqd/0
     15 root
                                                                       0:00.23 rcu_preempt
                                                                       0:00.02 migration/0
     16 root
                                                                       0:00.00 cpuhp/0
                                                                       0:00.00 cpuhp/1
                                                  0 S
     20 root
                                                                       0:00.24 migration/1
     21 root
                                                  0 S
                                                                       0:00.03 ksoftirqd/1
                                                                       0:00.00 kworker/1:0H-events highpri
     24 root
                                                  0 S
                                                                       0:00.00 cpuhp/2
                                                  0 S
                                                                       0:00.24 migration/2
     25 root
                                                         0.0
                                                                0.0
                                                  0 S
                                                                       0:00.03 ksoftirgd/2
     26 root
                                                         0.0
                                                                0.0
                                                                       0:00.00 kworker/2:0H-events highpri
                                                  0 I
     28 root
                                                         0.0
                                                                0.0
                                                  0 S
                                                                       0:00.00 cpuhp/3
     29 root
                                                         0.0
                                                                0.0
                                                  0 S
                                                                       0:00.24 migration/3
     30 root
                                                         0.0
                                                                0.0
                                                                       0:00.03 ksoftirqd/3
     31 root
                                                  0 S
                                                                       0:00.00 kworker/3:0H-events_highpri
                    0 -20
                                                  0 I
                                                                0.0
     33 root
                                                         0.0
                                                  0 S
                                                                       0:00.00 kdevtmpfs
     38 root
                                                         0.0
                                                                       0:00.00 inet frag_wq
                                                  0 I
     39 root
                    0 -20
                                                                       0:00.00 kauditd
     40 root
                                                  0 S
                                                         0.0
                                                                0.0
                                                  0.5
                                                                       0:00.00 khungtaskd
     41 root
                                                         0.0
                                                                0.0
                                                                       0:00.00 oom_reaper
     42 root
                                                  0 S
                                                                       0:00.00 writeback
     43 root
                                                  0 I
     44 root
                                                  0 S
                                                                       0:00.14 kcompactd0
     45 root
                                                  0 S
                                                                       0:00.00 ksmd
     47 root
                                                  0 S
                                                                       0:00.07 khugepaged
                                                  0 I
                                                                       0:00.00 kintegrityd
                                                  0 I
                                                                       0:00.00 blkcg_punt_bio
                                                  0 I
                                                                       0:00.00 tpm_dev_wq
                                                                       0:00.00 edac-poller
     52 root
     53 root
                                                                       0:00.00 devfreq_wq
                                                                       0:00.01 kworker/1:1H-kblockd
                                                  0 I
     54 root
                                                  0 S
                                                                       0:00.00 kswapd0
     55 root
```

4. Получите список сессий, созданных утилитой screen:

```
eltex-pgl-v14@eltex-2025-summer:~$ screen -list

There are screens on:
6507..eltex-2025-summer (07/07/2025 11:06:44 AM) (Detached)
5430.top (07/07/2025 11:02:37 AM) (Detached)

2 Sockets in /run/screen/S-eltex-pgl-v14.
```

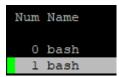
5. Подсоединитесь к сессии top.

```
eltex-pgl-v14@eltex-2025-summer:~$ screen -r top
```

6. Создайте еще одно окно в сессии top.

Ctrl a + C внутри сессии top

Ctrl a + " для просмотра окон в сесии:



7. В созданном окне выполните команду: watch /usr/bin/vmstat

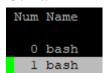
```
eltex-pgl-vl4@eltex-2025-summer:~$ watch /usr/bin/vmstat

Every 2.0s: /usr/bin/vmstat

procs -----memory-------swap-- ----io---- -system-- -----cpu----
r b swpd free buff cache si so bi bo in cs us sy id wa st
1 0 0 3281148 20996 246660 0 0 5 5 28 37 0 0 97 2 0
```

8. Получите список окон.

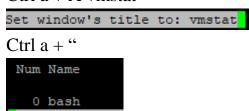
Ctrl a + "



9. Переименуйте второе окно как «vmstat»:

Ctrl a + A vmstat

1 vmstat



10. Перейдите в окно, в котором работает top.

Ctrl a + '0

top - 11:29:46 up 2:28, 59 users, load average: 0.04, 0.06, 0.06

Tasks: 380 total, 2 running, 378 sleeping, 0 stopped, 0 zombie

%Cpu(s): 0.2 us, 0.4 sy, 0.0 ni, 99.2 id, 0.0 wa, 0.0 hi, 0.2 si, 0.0 st

MiB Mem: 3914.7 total, 3162.4 free, 703.0 used, 264.2 buff/cache

MiB Swap: 976.0 total, 976.0 free, 0.0 used. 3211.7 avail Mem

MiB Swap: 976.	0 total,	976.0 free,	0.0 used.	3211.7 avail	. Mem
PID USER	PR NI	VIRT RES	SHR S %CPU	%MEM TIME+	COMMAND
1758 eltex-p+	20 0	11616 5364	3224 S 0.7	0.1 0:06.09	top
44 root	20 0		0 S 0.3	0.0 0:00.18	kcompactd0
501 root	20 0	80244 3716	3440 S 0.3		qemu-ga
9539 elte x -p+	20 0	6316 3176	2504 S 0.3	0.1 0:00.25	
1 root	20 0	168396 12780	9124 S 0.0		systemd
2 root	20 0		0 S 0.0		kthreadd
3 root	0 -20		0 I 0.0		rcu_gp
4 root	0 -20		0 I 0.0		rcu_par_gp
5 root	0 -20		0 I 0.0		slub_flushwq
6 root	0 -20 0 -20	0 0	0 I 0.0	0.0 0:00.00	
8 root 10 root	0 -20	0 0	0 I 0.0 0 I 0.0		kworker/0:0H-events_highpri mm percpu wq
11 root	20 0	0 0	0 I 0.0		rcu tasks kthread
12 root	20 0	0 0	0 I 0.0		rcu tasks rude kthread
13 root	20 0	0 0	0 I 0.0		rcu tasks trace kthread
14 root	20 0	0 0	0 S 0.0		ksoftirqd/0
15 root	20 0	0 0	0 I 0.0		rcu_preempt
16 root	rt 0	0 0	0 S 0.0		migration/0
18 root	20 0	0 0	0 S 0.0		cpuhp/0
19 root	20 0	0 0	0 S 0.0		cpuhp/1
20 root	rt 0		0 S 0.0	0.0 0:00.24	migration/l
21 root	20 0		0 S 0.0	0.0 0:00.05	ksoftirqd/l
23 root	0 -20		0.0	0.0 0:00.00	kworker/1:0H-events_highpri
24 root	20 0		0 S 0.0	0.0 0:00.00	cpuhp/2
25 root	rt 0		0 S 0.0	0.0 0:00.24	migration/2
26 root	20 0		0 S 0.0	0.0 0:00.06	ksoftirqd/2
28 root	0 -20		0.0	0.0 0:00.00	kworker/2:0H-events_highpri
29 root	20 0		0 S 0.0		cpuhp/3
30 root	rt 0		0 S 0.0		migration/3
31 root	20 0		0 S 0.0		ksoftirqd/3
33 root	0 -20		0 I 0.0		kworker/3:0H-events_highpri
38 root	20 0		0 S 0.0		kdevtmpfs
39 root	0 -20		0 I 0.0		inet_frag_wq
40 root	20 0		0 S 0.0		kauditd
41 root	20 0	0 0	0 S 0.0		khungtaskd
42 root	20 0 0 -20		0 S 0.0		oom_reaper
43 root 45 root	25 5	0 0	0 I 0.0 0 S 0.0		writeback
45 root	39 19	0 0	0 S 0.0		khugepaged
48 root	0 -20	0 0	0 I 0.0		kintegrityd
49 root	0 -20	0 0	0 I 0.0		kblockd
50 root	0 -20	0 0	0 I 0.0		blkcg punt bio
51 root	0 -20	0 0	0 I 0.0		tpm dev wq
52 root	0 -20	0 0	0 I 0.0		edac-poller
53 root	0 -20	0 0	0 I 0.0		devfreq wq
54 root	0 -20	0 0	0 I 0.0		kworker/1:1H-kblockd
55 root	20 0		0 S 0.0		kswapd0
61 root	0 -20		0.0		kthrotld
63 root	0 -20		0.0		acpi_thermal_pm
66 root	0 -20		0.0	0.0 0:00.00	
67 root	0 -20		0.0	0.0 0:00.00	ipv6_addrconf
72 root	0 -20		0.0	0.0 0:00.00	
77 root	0 -20		0.0		zswap-shrink
78 root	0 -20		0.0		kworker/u9:0
123 root	0 -20		0.0		kworker/0:1H-kblockd
133 root	0 -20	0 0	0 I 0.0	0.0 0:00.01	kworker/3:1H-kblockd

11. Отсоединитесь от сессии top.

eltex-pgl-vl4@eltex-2025-summer:~\$ screen -r top [remote detached from 5430.top]

12. Запустите новую сессию и запустите в окне команду: vi report_part1.txt

Выход из vi: Esc + :qa

13. Отсоединитесь от сессии и получите список сессий.

Screen -d

```
eltex-pgl-vl4@eltex-2025-summer:~$ screen -r vim [remote detached from 24214.vim]
```

```
There are screens on:

24214.vim (07/07/2025 11:32:10 AM) (Detached)
6507..eltex-2025-summer (07/07/2025 11:06:45 AM) (Detached)
5430.top (07/07/2025 11:02:38 AM) (Detached)
3 Sockets in /run/screen/S-eltex-pgl-v14.
eltex-pgl-v14@eltex-2025-summer:~$
```

14.Отключитесь от сервера, используя команду logout или комбинацию клавиш Ctrl+D:

eltex-pgl-v14@eltex-2025-summer:~\$ logout

15.Подключитесь к серверу (как в п.1), и получите список сессий screen

```
login as: eltex-pgl-v14
eltex-pgl-v14@217.71.138.1's password:
Access denied
eltex-pgl-v14@217.71.138.1's password:
Linux eltex-2025-summer 6.1.0-32-amd64 #1 SMP PREEMPT_DYNAMIC Debian 6.1.129-1 (2025-03-06) x86_64

The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent permitted by applicable law.
Last login: Mon Jul 7 10:25:26 2025 from 217.71.139.232 eltex-pgl-v14@eltex-2025-summer:~$
```

```
eltex-pg1-v14@eltex-2025-summer:~$ screen -list

There are screens on:

24214.vim (07/07/2025 11:32:09 AM) (Detached)

6507..eltex-2025-summer (07/07/2025 11:06:44 AM) (Detached)

5430.top (07/07/2025 11:02:37 AM) (Detached)

3 Sockets in /run/screen/S-eltex-pg1-v14.
eltex-pg1-v14@eltex-2025-summer:~$
```

16.Подключитесь к сессии с редактором и запишите в файл

"ФИО часть 1 модуля 1 успешно завершена дата и время"

```
eltex-pgl-v14@eltex-2025-summer:~$ screen -r vim
```

```
eltex-pgl-v14@eltex-2025-summer:~$ vi report_partl.txt
```

Esc + I - для режима вставки (Insert)

:qw! - для записи в файл

```
eltex-pgl-v14@eltex-2025-summer:~$ cat report_partl.txt
Владимиров Алексей Вячеславович часть 1 модуля 1 успешно завершена 07.07.2025 11:43
```

16. Закройте редактор, сохранив файл и закройте все сессии screen.

```
eltex-pgl-v14@eltex-2025-summer:~$ pkill screen
eltex-pgl-v14@eltex-2025-summer:~$ screen -list
No Sockets found in /run/screen/S-eltex-pgl-v14.
```